



63
back: 20/4/43



URBAN DISTRICT OF NEWBIGGIN-BY-THE-SEA

ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH

FOR 1940.



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ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH FOR 1940.

To the Chairman and Councillors of the Urban District Council
of Newbiggin-by-the-Sea.

Ladies and Gentlemen,

I beg to submit the Annual Report of the Medical Officer of Health for the year 1940, relating to the sanitary circumstances and the public health of the urban district.

As stated in the report for the previous twelve months, the record continues to be as succinct as possible, in conformity with the specific intentions of the Ministry of Health, and is throughout self explanatory.

The following changes in staff took place and it should be recorded that the Assistant Medical Officer of Health, Miss Catherine B. McGregor, M.B., D.P.H. commenced duty towards the end of May, 1940, and that a Supervisory Officer, expressly appointed by the Joint Committee for the Medical Officer of Health in concert with the scheme making authority (Northumberland County Council) was attached to the Department of the Medical Officer of Health with the avowed intention of easing the burden occasioned by the administration of the Casualty Services for the five districts, and which, up to that time, had been solely shouldered by the Medical Officer of Health himself.

With these necessary additions to staff, it was at once apparent that new accommodation became an urgent requirement, and so it came about that the premises at 146, Station Road, Ashington, were acquired on lease as the offices of the Medical Officer of Health for the five constituent Authorities, and it is from this control centre that the direction of the five distinct Sanitary Departments of the constituent districts is accomplished.

The year 1940 for Newbiggin-by-the-Sea was fraught with much trouble, for it was in this period that there occurred the baneful and costly epidemic of Paratyphoid B. Fever, a description of which is contained within.

I am,
Ladies and Gentlemen,

Your obedient Servant,

JAMES ANGUS,

Medical Officer of Health,
Urban District of Newbiggin-by-the-Sea.

April, 1942.

URBAN DISTRICT OF NEWBIGGIN-BY-THE-SEA.

OFFICERS OF THE PUBLIC HEALTH DEPARTMENT

Medical Officer of Health

James Angus,
M.B., CH.B., B.HY., D.P.H.

Assistant Medical Officer
of Health

Catherine B. McGregor,
M.B., CH.B., D.P.H.
Appointed April, 1940.

Surveyor,
Sanitary and Meat Inspector, }
Housing Supervisor

James Kailofer,
M.R.San. Inst., M.S.I.A., F.F.A.S.,
Certif. R.S.I. Meat and Foods

Offices of the U.D.C.

Council Offices, Newbiggin.

Telephone

Newbiggin 50.

Office of the M.O.H.

146, Station Road, Ashington.

Telephone

Ashington. 287.

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URBAN DISTRICT OF NEWBIGGIN-BY-THE-SEA.

ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH
FOR 1940.

SECTION A.

Statistics and Social Conditions of the Area.

Area, in acres - 1,841.

Registrar General's estimate of
Resident population mid 1940 9,162 X

Area comparability factor 1.17

Rateable value - £35,070.

One penny rate produces - £135.

Number of inhabited houses (end of 1940) - 2,439. X

Vital Statistics.

Births:-

<u>Live Births.</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>
Legitimate	152	79	73
Illegitimate	4	1	3

Birth Rate per 1,000 of the estimated resident population - 17.68

<u>Still Births.</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>
Legitimate	5	4	1
Illegitimate	-	-	-

Rate per 1,000 total (live and still) births - 31.0.

Deaths:-

	<u>Total</u>	<u>Male</u>	<u>Female</u>
	97	48	49

Death Rate per 1,000 of the population - 10.57
Death Rate multiplied by areal comparability factor - 12.37

Death from Puerperal Causes:- (headings 29 and 30 of the Registrar General's short list):-

	<u>Deaths.</u>	<u>Rate per 1,000 total (live and still) births.</u>
No.29 Puerperal Sepsis.....	0	0
No.30 Other maternal causes.	0	0
Total.....	0	0

Death Rate of infants under one year of age:-

All infants per 1,000 live births.....50.96
 Legitimate infants per 1,000 legitimate live births.....52.29
 Illegitimate infants per 1,000 illegitimate live births.. 0.0

Deaths from Cancer (all ages) 10
 Deaths from Measles (all ages) 0
 Deaths from Whooping Cough (all ages) 0
 Deaths from Diarrhoea (under 2 years) 0

The Registrar General supplies the following:-

CAUSES OF DEATHS 1940.

<u>Causes of Death.</u>	<u>Male</u>	<u>Female</u>
1. Typhoid & paratyphoid fevers.	-	-
2. Cerebro-spinal fever.	-	-
3. Scarlet Fever.	-	-
4. Whooping Cough.	-	-
5. Diphtheria.	-	1
6. Tuberculosis of resp: system.	5	2
7. Other forms of Tuberculosis.	-	1
8. Syphilitic diseases.	-	-
9. Influenza.	-	1
10. Measles.	-	-
11. Acute polio-myel: & polio-enceph:	-	-
12. Acute inf: enceph:	-	-
13. Cancer of B: cav: & Oesoph:(M) uterus(F)	-	1
14. Cancer of stomach & duodenum.	2	1
15. Cancer of breast.	-	2
16. Cancer of all other sites.	1	3
17. Diabetes.	-	2
18. Intra-cran: vasc: lesions.	12	11
19. Heart diseases.	13	8
20. Other diseases of circ: system.	1	1
21. Bronchitis.	-	3
22. Pneumonia.	1	2
23. Other resp: diseases.	-	-
24. Ulcer: of stomach or duodenum.	1	-
25. Diarrhoea under 2 years.	-	-
26. Appendicitis.	1	-
27. Other digve: diseases.	1	3
28. Nephritis.	1	1
29. Puer: and post-abortion: sepsis.	-	-
30. Other maternal causes.	-	-
31. Prem: birth.	1	1
32. Con: mal: birth inj: infant: dis:	3	-
33. Suicide.	-	1
34. Road traffic acc:	-	-
35. Other violent causes.	3	2
36. All other causes.	2	2
	<u>48</u>	<u>49</u>
All causes...	48	49

		Male	Female
Deaths of infants under 1 year.	(Legitimate	5	3
	(Illegitimate	-	-
	Totals	5	3
Live Births.	(Legitimate	79	73
	(Illegitimate	1	3
	Totals	80	76
Still Births.	(Legitimate	5	3
	(Illegitimate	-	-
	Totals	5	3

INFANTILE MORTALITY - 1940.

Causes of death.	Und 1 wk	1-2 wks	2-3 wks	3-4 wks	Total under 1 mth	1-3 mths	3-6 mths	6-9 mths	9-12 mths	Total under 1 yr.
Atalectasis	1	-	-	-	1	-	-	-	-	1
Prem: birth	2	-	-	-	2	-	-	-	-	2
Atrophy, debility, marasmus.	1	-	-	-	1	-	-	-	-	1
Con: malformations.	-	-	-	-	-	-	-	-	-	-
Birth injury	1	-	-	-	1	-	-	-	-	1
Pneumonia	-	-	-	-	-	1	-	1	-	2
Other causes	-	-	-	-	-	-	-	1	-	1
Total	5	-	-	-	5	1	-	2	-	8

SECTION B.

General Provision of Health Services for the Area.

LABORATORY FACILITIES.

Laboratory facilities are available at the Laboratory belonging to the Northumberland County Council. Subjoined is a table showing the extent to which the facilities afforded by the Laboratory services are made use of by the local medical practitioners and your Medical Officers of Health.

Specimens sent in by.	Specimen.	Neg.	Pos.
C.C.T.O.	Sputa, tubercle.	6	1
Medical Practitioners.	do	36	2
M.O.H.	Swabs for C.	7	1
Medical Practitioners.	diphtheriae.		
	do	19	3
M.O.H.	Virulence Test	-	1
Medical Practitioners.	for C.diphtheriae		
	do	-	-
M.O.H.	Swabs for	-	1
Medical Practitioners.	Haemolytic		
	Streptococcus.		
	do	2	4
M.O.H.	Blood for Widal	127	12
Medical Practitioners.	do	19	42
M.O.H.	Faeces for Enteric	32	1
Medical Practitioners.	Organisms.		
	do	26	13
M.O.H.	Urine for Enteric	23	-
Medical Practitioners.	Organisms.		
	do	1	-

AMBULANCE FACILITIES.

For accidents and non-infectious cases - one (Miners Welfare) Newbiggin; and one (Miners Welfare) North Seaton Colliery. For infectious diseases - ambulance of the Ashington Urban District Council is obtained by arrangement.

NURSING IN THE HOME.

There are three nurses within the district for nursing in the home, and attendance as midwives. One is employed by the County Nursing Association, and two by colliery organisations.

TREATMENT CENTRES.

The Northumberland County Council is the Welfare Authority for the Urban District and its activities are carried out in the modern Child Welfare Centre behind Jubilee Terrace. Here are conducted antenatal, child welfare, dental and diphtheria immunisation clinics for persons in the appropriate age groups.

HOSPITALS, Public and Voluntary.

Within the district there is none.

The Local Authority, a constituent member of the proposed joint hospital scheme for the South East Northumberland district, has no hospital for the infectious sick, and meanwhile such cases requiring isolation and treatment are admitted to the Infectious Diseases Hospital of the Ashington Urban District Council or to that of the Newcastle Corporation.

SECTION C.

Sanitary Circumstances of the Area.

WATER.

Water is derived in bulk from the reservoirs of Tynemouth Corporation. The daily consumption during 1940 was approximately 200,000 gallons.

During the year five samples of water were taken from various parts of the district, including North Seaton Colliery, and all the results went to show that the water was of high purity.

North Seaton Colliery, is supplied from the North Seaton Pit, and subjoined is a chemical analysis of this particular water carried out during the year.

"Sample marked:- "From an outside tap at East Street, North Seaton Colliery. 26.8.40".

Received 28th August, 1940.

Parts per 100,000.

Total solid matters in solution dried at 100°C ...	66.400
Chlorine existing as chlorides	8.165
Ammonia	0.001
Albuminoid ammonia.....	0.002
Nitrogen existing as nitrates.....	0.010
Oxygen absorbed in 15 minutes at 25°C.....	0.007
" " " 4 hours " "	0.014
Lead and other poisonous metals	None
Hardness before boiling. Dr. Clark's scale (1°-1 part of calcium carbonate per 100,000)	40.5°
Hardness after boiling 1 hour. do	17.7°
Appearance in two-foot tube	Colourless and clear.
Smell when warmed	None
Microscopical examination of sediment	Satisfactory.

This sample of water is organically pure and is therefore satisfactory for drinking.

It contains a considerable amount of inorganic salts and is very hard, so that from this standpoint, the water is not so suitable for washing, cooking, and general domestic use."

DRAINAGE AND SEWERAGE.

No water mains or sewer extensions were carried out during the year. Domestic cast iron services are frequently renewed with lead pipes.

Private Street Works Act, 1892. - Further works under this Act have been held up owing to the War. There are few streets left now for attention.

RIVERS AND STREAMS.

No action was found necessary in this respect.

CLOSET ACCOMMODATION.

Number of Privies {Newbiggin 32}	
(North Seaton 126)	158
Number of Water Closets.....	2,340
Number of Pail Closets (on allotments)	4
Number of Ashpits {Newbiggin 30}	
(North Seaton 75)	105

Public Conveniences: The three Public Conveniences in this area are subject to abuse and damage by a certain section of the public.

PUBLIC CLEANSING.

The scavenging of the whole area has been undertaken by direct labour this year. One Dennis Freighter 9 cubic yard capacity and two covered horse-drawn carts are being used to carry out the work. The Council purchased 4 acres of land at the Blue Holes for use as a Refuse Deposit; this has been in use since May, 1940.

SHOPS AND OFFICES -

No action was taken.

CAMPING SITES.

Camping in the district was prohibited by the Military Authorities.

SMOKE ABATEMENT.

The exigencies of the military situation still govern the cessation of fumes from the pit heaps by the insistance of the absence of pit heap fires. As a consequence the atmospheric pollution from this cause has been greatly abated.

Domestic chimney firings however are still prevalent.

Atmospheric Pollution.

Another most troublesome source of atmospheric pollution took place since the middle of September and the ensuing ten days from the resurfacing of Woodhorn Road and portions of Front Street. This renewal is untaken by the Highway Authority, and the portions referred to constitute a large portion of the built up area in Newbiggin and are, in fact, the main roads.

The operation of resurfacing with a gravel with an extremely high dust content necessitates its application in excess, the superfluous amount being later removed by hand sweeping.

The result has been that during the operation and for many weeks thereafter - until the arrival of the wetter season in fact - the pedestrians and frontagers on these highways have been subjected unnecessarily to clouds of dust arising from the carriage ways at the passing of every omnibus or military lorry.

I feel, therefore, that in the built up areas of all towns the roads therein should be repaired by whin chips of an appropriate size, whatever other material may be employed in the more outlying portions of the district.

SWIMMING BATHS AND POOLS.

There are no public swimming baths or pools.

Pitheath baths are in use at Newbiggin Colliery - accommodation 1050; and North Seaton Colliery - accommodation 700 for the use of mine workers exclusively.

ERADICATION OF BED BUGS.

(1) Number of Council houses found to be infested during the year was 1. This was disinfested.

(2) Number of private houses found to be infested during the year was 3, (2 at North Seaton, 1 at Newbiggin). All were disinfested.

(3) The method employed for disinfection is by means of "Pyragra" Insecticide used with a pressure spray.

No methods are employed to ensure that belongings of tenants are free from vermin before removal to Council houses.

All disinfections are carried out by the Sanitary Inspector's Department.

SCHOOLS.

The general sanitary condition and water supply of all schools in this area remain satisfactory.

SECTION D.

Housing.

Number of New houses erected during 1940 -

(a) By Local Authority (with state assistance) None

(b) By Other Bodies or Persons.....None

SECTION E.

INSPECTION AND SUPERVISION OF FOOD.

MILK SUPPLY.

No. of Registered Cowkeepers at 31.12.40 8

No. of Registered Purveyors of Milk at 31.12.40 16

No. of cows at 31.12.40 120

MEAT AND OTHER FOODS.

Slaughter Houses: In early 1940 the Ministry of Food decreed that a central slaughtering centre and a depot for the distribution and allocation of meat be established in an already existing privately owned abbatoir in the Urban District of Ashington. This dispensed with the use of the private slaughter houses or killing shops within the district, all the meat being inspected by the Meat Inspectors of the Ashington U.D.C. in Ashington.

The number of registered slaughter houses at 31.12.40 in the Newbiggin U.D. was four.

The following unsound foodstuffs were voluntarily surrendered to the Meat Inspector during the year:-

141½ lbs. Bacon and Ham.

2 lbs. 12 oz. Tomatoes (in tins)

1 jar Pickles.

99½ lbs. Meat.

4 lbs. 9 oz. Butter.

All the above were condemned as unfit for human consumption.

SECTION F.

PREVALENCE OF, AND CONTROL OVER, INFECTIOUS AND OTHER DISEASES.

Disease.	Total Cases Notified	Cases admitted to Hospital.	Total Deaths.
Scarlet Fever	13	-	-
Diphtheria	3	1	1
Enteric Fever (including paratyphoid)	66	65	-
Puerperal Pyrexia	3	-	-
Pneumonia	43	-	3
Erysipelas	1	-	-
Dysentery	3	2	-
Whooping Cough	1	-	-
Measles	336	-	-

TABLE SHOWING ANALYSIS OF NOTIFIED CASES OF INFECTIOUS DISEASES UNDER AGE GROUPS IN NEWBIGGIN.

Disease.	Und 1 yr.	1-	2-	3-	4-	5-	10-	15-	20-	35-	45-	65 & over	Total.	
Scarlet Fever	-	-	1	-	2	10	-	-	-	-	-	-	13	
Diphtheria	-	-	1	-	-	-	-	(2 ages not given)					-	3
Enteric Fever (incl. paratyphoid)	2	2	3	2	-	11	6	14	14	6	5	1	66	
Puerperal Pyrexia	-	-	-	-	-	-	-	-	3	-	-	-	3	
Pneumonia	5	3	3	5	2	7	3	2	3	1	3	6	43	
Erysipelas	-	-	-	-	-	-	-	-	-	-	-	1	1	
Cerebro Spinal Fever	-	-	-	-	-	-	-	1	-	-	-	-	1	
Dysentery	-	-	-	-	-	1	-	-	-	-	2	-	3	
Measles	18	36	44	36	49	146	4	1	(2 ages not given)					336
Whooping Cough	-	1	-	-	-	-	-	-	-	-	-	-	1	

The Outbreak of Paratyphoid B. Fever in Newbiggin-by-the-Sea, Ashington and Bedlingtonshire Urban Districts.

The serious outbreak of Paratyphoid B. Fever, which took place principally in Newbiggin by the Sea and to a much less extent in neighbouring urban districts, of Ashington and Bedlingtonshire was a remarkable and important one in several ways, and quite the outstanding event in public health in 1940.

The number of cases of paratyphoid notified in each district were as follows -

Newbiggin	66
Ashington	15
Bedlington	5 (2 unconnected with the Newbiggin outbreak.)

It had been well known for some time that paratyphoid B. fever had been occurring in epidemic form in several places prior to this outbreak, namely Glasgow 1936 and 1940, Birmingham 1940, and almost simultaneous with the Newbiggin outbreak in 1940 an outbreak at Gateshead on Tyne and Whickham.

It should be pointed out that the memorandum on Typhoid Fever published by the Ministry of Health 225/Med had been distributed to all medical practitioners in the five districts in December 1939. This brochure embodied all the most up to date information relating to the enteric fevers (typhoid and the paratyphoids).

The salient features of the epidemic are described below and it is noteworthy that while the local source of the prevalence was found to be in Newbiggin by the Sea district, the incipient phase of the epidemic became apparent in the first place in a particular ward of Ashington, viz. the one nearest Newbiggin.

The first indication that your Medical Officer had - who was at that time single handed - that something unusual had happened in the district, was a telephone message from the Royal Victoria Infirmary to the effect that a young Ashington boy who had been admitted to that institution was actually suffering from Paratyphoid B. fever. This was on the 10th May, 1940, and he was transferred to the City Hospital for Infectious Diseases, Newcastle. A personal visit to this boy's home in Newbiggin Road, Ashington, did not elicit anything unusual about the provisioning of this household, except that the lad had a great partiality for icecream and had partaken of this refreshment from many establishments, both in and outside the districts. He had sickened on the 4th May, 1940.

On May 15th four cases (three in one family, consisting of a mother and two very young children) of para B. Fever were notified in Ashington and a single case in Newbiggin by the Sea (Hawthorn Road 1, Monkseaton Terrace 3, Ashington Moorcroft 1, Newbiggin). These last four cases occurred in the practice of one doctor, who had surgeries in both districts and all five were removed to the I.D. Hospital at Ashington.

As is my usual practice on the occurrence of enteric fever all the medical practitioners in the districts were at once informed of the existence of Para B. Fever, as well as the A.D.M.S. of the Military Division; the Resident Medical Officers of the Royal Victoria Infirmary and the Fleming Memorial Hospital, Newcastle; the Ministry of Health and the County Medical Officer.

Thereafter cases of Para B. Fever continued to be notified throughout the next four months with the dates of the onset of the illness as follows, taking place in the months stated -

Month.	Total No. of cases.	Ashington	Bedlington	Newbiggin	Morpeth R.
May	47	10	3	33	1
June	16	2	-	13	1
July	3	-	-	3	-
August	17	1	-	15	1
Totals	83	13	3	64	3

The last case notified was on 24th September 1940 in Newbiggin by the Sea.

In addition to the 83 cases or thereby information was received of illnesses of Para B. Fever occurring as follows outwith any of the five districts for which your M.O.H. is Medical Officer of Health, namely three in non-civilians and two in other civilians.

Table of age groups of patients in Ashington, Bedlington, Newbiggin and Morpeth Rural.

	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	over 45
Males	5	7	3	7	1	5	3	3	-	1
Females	8	7	6	8	5	3	2	3	2	5
Totals	13	14	9	15	6	8	5	6	2	6
	(66.2/3%)					(33.1/3%)				

It is my opinion that many other cases of very mild para B. infection occurred, but were never brought to light for many of the sufferers would probably pass through an illness which was regarded as too trivial and slight to report to a doctor.

At a time when Influenza was non-existent in the district, it is worth recording that from 6th May to 16th May there were notified to the P.H. Department in Newbiggin by the Sea from one practice eight cases of illness attributed to Acute Influenzal Pneumonia. Three of these cases (Nos. 11, 12, 22) had been admitted to general hospitals in Newcastle, from which they were retrieved on the true nature of their illness having been discovered. No. 22, an important case, sickened on 3.5.40 and was said to be under medical care from 5.5.40 till 23.5.40 on which date the patient was removed to the Royal Victoria Infirmary and later transferred to Ashington Infectious Diseases Hospital on 28.5.40 as the disease had been diagnosed as Para B. Fever.

Case No. 31 is also an important case and was closely associated with case No. 22; was seen on 5.5.40 and transferred to another district. There, the real nature of the patient's illness was not recognised until after the receipt of notification that Case 22 was one of paratyphoid on the 28.5.40. Case 31 was

investigated and found to have been really affected with paratyphoid and was admitted to hospital on 31.4.40. The onset of this patient's illness was 1.5.40, exactly eleven days after coming to reside in Newbiggin by the Sea.

None of the other cases of the epidemic - all of which were personally investigated by the Medical Officers of Health - gave an earlier date of onset than Case No. 31.

All this goes to show that the enteric fevers are so protean in their manifestations that it is always well to carry out blood cultures, and serological tests at the earliest appropriate moment in all cases of ill-defined, vague and febrile illnesses, of over a week's duration.

The patients were with one exception treated in hospital. In the first place the Infectious Diseases Hospital of the Ashington U.D.C. was utilised, from which patients suffering from Scarlet Fever and diphtheria were displaced to the I.D. Hospital of the Bedlingtonshire U.D.C. which at once was opened out and staffed. The new nursing staff at Bedlington were inoculated against the typhoid fevers in anticipation of more accommodation being required for the expected increased incidence of cases, which, of course, these nurses would be called upon to care for. This did in fact take place, necessitating a further evacuation of scarlet fever and diphtheria patients to the Infectious Diseases Hospital at Morpeth.

With the exception of five cases, which were removed to the City Hospital for Infectious Diseases, Newcastle, all the cases of paratyphoid fever were treated successfully in the hospitals of the Ashington and Bedlingtonshire Urban District Councils, the physicians in charge being the Medical Officer of Health and the Assistant Medical Officer of Health.

There were no deaths and all the patients on discharge were free from infection, judged by three successive negative bacteriological results. No secondary cases occurred in any of the various grades of personnel in in any of the hospitals - all members of the staff having been already protected by the appropriate inoculations on recruitment to the hospitals at all times.

I have no doubt in my own mind that the cause of this prevalence of Paratyphoid was the result of infected artificial or synthetic cream reaching a central bakery in Newbiggin by the Sea from which it became distributed to the firm's many consumers in Newbiggin and the adjoining districts in various types of cream confectionery, as cream cakes, trifles, sandwich cakes, etc.

These were sold at this large business concern's various branches by their roundsmen and from other small retailers depots.

What role in the continued propagation of the epidemic was played by temporary carriers and employees incubating the disease and who were engaged in separate, central and branch provision

departments of the same firm other than the bakery. I am not in a position to make a definite pronouncement, except that these would for a time at least handle cooked meats, such as cooked cold meat, hams, butter, etc., which items would not be subjected to further cooking in the home after purchase.

The outbreak is yet another to be added to the already long list of paratyphoid epidemics incriminating artificial cream, and which have become much commoner since the outbreak of War in 1939, though some large prevalences had taken place prior to 1939.

The ascertainment of the source of the trouble became the paramount concern of your Medical Officer of Health and the first four patients especially the Newbiggin one being too seriously ill to be able to give much reliable evidence, a preliminary cast was made on 15.5.40 amongst the mobile icecream vendors of local and national brands travelling the affected parts of the districts. These investigations, extended to the remainder of the itinerant sellers, and the staffs of the local icecream manufacturers on 16.5.40, proved to be negative. The icecream season had been by the 4.5.40 about four or five weeks in progress and its sale and the number of roundsmen were being steadily increased with the approach of better weather.

The water supplied to Ashington and Newbiggin by the Sea from Tynemouth Corporation as well as that supplied to North Seaton Colliery were immediately excluded from being in any way responsible, as the result of bacteriological analyses. So too with certain milk supplies.

On 17.5.40 the serological comb out of the personnel of the bakery had commenced and cream cakes from this particular bakery were conveyed on that date to the County Laboratory for bacteriological examination. On the 18.5.40 specimens of the artificial cream used in filling the above cream cakes were also forwarded for a similar purpose. This cream was taken with proper precautions from an already opened canister of the suspected brand in the bakery. The remainder of the personnel of the central bakery were serologically tested on 19 and 20.5.40 and official information was received on 21.5.40 that a bakeress and a roundsman both showed suggestive reactions for B. paratyphosus B (1 in 125). Both were admitted to an Isolation Hospital on 21.5.40 for observation and were found to be intestinal carriers (albeit transient and convalescent for they ultimately cleared up and resumed employment).

Meanwhile official intimation of the bacteriological results of the cream in the cakes and the cream itself had arrived on 22.5.40. They were as follows:-

Cream cakes (17.5.40) - (a) no specific pathogenic organisms found.
(b) Bacillus faecalis alkaligenes Present.

Cream (18.5.40) - (a) no specific pathogenic organisms found.
(b) numerous Bacilli faecalis alkaligenes Present.

Standard works on Bacteriology state that *B. faecalis alkaligenes* and Morgans *Bacillus* are found in dysenteric and non dysenteric intestinal disturbances affecting humans.

The use of this particular brand of synthetic cream in this bakery was stopped immediately on 22.5.40.

While on the subject of the artificial cream, it was thought more equitable to ascertain the bacterial content (if any) of the cream from an unopened canister immediately on arrival at Newbiggin. Accordingly the first such available unopened container was secured and deposited with the bacteriologist on 23.5.40 and on the 30.5.40 he reported as follows:-

Number of organisms developing on agar at 37°C - Plates uncountable -
several million per cc.
B. coli present in 0.0001 cc.

A number of non lactose fermenting types have been found including *B. faecalis alkaligenes* (numerous) and *B. morgan* No.1, but specific organisms of the enteric group have not been isolated.

The Bacteriologist added a memorandum to his report that whatever the quantitative estimate of the bacterial content at the time of examination, the fact still remained that the various types of organisms found must have been present *ab initio*, though it was impossible to say whether they had gained access during the manufacturing process or were derived from the raw materials used.

B. paratyphosus B. was never recovered from any of the samples of artificial cream sent to the bacteriologist and of course it is well known that the isolation of enteric organisms even from sewage polluted and infested waters is a difficult task.

Another point should be made that actual samples of the cream presumed to be contaminated and consumed by the sufferers were never available for examination.

My previous local knowledge of the district as a former general practitioner therein enabled me to discern that nothing short of a wholesale serological comb out of all the employees of all the food distributing departments would suffice for the reason that this large concern employs a great many hands - at this time many of them novices - whose households would be customers of all departments, and hence a person employed in a provision department, while not handling any of the cream confectionery from the bakery might, would in fact, from time to time find cream cakes on the teatable purchased direct from a branch depot or from a roundsman of the bakery department of the same firm. Furthermore, many of the patients had relatives employed in this large business concern.

The investigations were, on 21.5.40, extended to the staff in the grocery department, with negative findings except that one assistant, (case 15) had been off since 6.5.40 and was found within the next day or two to have had paratyphoid B. fever (serum 23.5.40

positive B. para B. 1 in 2500 and B. para B. recovered in hospital).

On 21st May 1940 the Assistant Medical Officer of Health took up duty for the first time - a timely arrival. Thereafter the ascertainment of the state of health past or present of the employees went on apace.

A positive reactor was discovered in a branch provision establishment of the same firm and was Case No.23, was never off work though this employee passed through some sort of vague illness (serum 27.5.40 positive B. para B. 1/250: B. para B. recovered in hospital).

Case No.19, aged 8, a son of the resident manager in the above branch was removed on 25.5.40 to Hospital with Para B. Fever.

Case No 38, aged 2, a daughter of one of the firm's butchers was removed to hospital on 6.6.40 with Para B. Fever.

Despite the continuous intensive search for carriers and cases amongst other food handling firms - always with negative results - and the strict hospitalisation of all cases and ascertained excretors of B. para B. cases of paratyphoid fever continued to occur in a desultory and most disconcerting manner throughout June, and July until the end of August and beginning of September when a recrudescence of the epidemic took place although to a slighter degree.

However, on 23.7.40 Case 65, aged 2½ years, was found to give a serum reaction for B. para B. 1 in 5000 and B. para B. was recovered in Hospital. This was the child of the manager of the central bakery.

A renewed comb out of the employees of this firm was decided upon and immediately commenced including the bakery, and as a result two assistants in the provision departments of different branches were found to be absent from work.

Case 76; serum 23.8.40 positive B. para B. 1/1000, was admitted to hospital on 24.8.40, a clinical case and B. para B. recovered.

Case 83, serum 2.9.40 positive B. para B. 1/500, admitted to Hospital 3.9.40 and B. recovered.

At this time two of the errand boys on the milk rounds of the same firm were found to react for B. para B. 1 in 125, but could not be found in any other way to be responsible for the renewed activity of the epidemic.

At this time too, Case 84 was discovered by the recovery of the *Bacillus paratyphosus* B. This case was the only other sufferer employed in a totally different food distributing firm, other than the business concern from which all the previous sufferers and carriers had been retrieved.

The very great preponderance of clinical cases and carriers gave definite histories of having consumed cream confectionery in some form or other, obtained from the central bakery. It might so have happened that the households of the infected obtained their supplies as regular, daily or occasional deliveries or that some isolated cases from other districts had visited Newbiggin by the Sea for some special reason as e.g. a funeral or wedding, for which functions the central bakery happened to be responsible for the catering, supplying amongst other items cream filled cakes or confectionery.

With the hospitalisation of the last three food handling patients, Cases 76, 83 and 84, the epidemic speedily terminated with much relief to the very great strain imposed upon the Medical Officers of Health who investigated ~~the~~ history of each case personally and who were the physicians in attendance at the Infectious Diseases Hospitals and responsible for directing the treatment.

An interesting item having some bearing on the type of articles of food responsible, was disclosed in the case of a family of three, in which there existed one, who was debarred by a disability from partaking of starchy and sweetened food-stuffs. This person did not develop Paratyphoid B. Fever though the other two persons in the family (Cases 12 and 14) who were definite clinical cases, indulged in products of this central bakery, including cream confectionery. One of these patients was a dealer in raw marine produce.

Much valued assistance was given by the Matron and nursing staff of the hospitals, whose staffs throughout worked unsparingly in the interests of the patients at all times.

From the very beginning of the outbreak, in my communications with the representatives of the Central Authority in Newcastle, I was most emphatic in my view that the contamination of this conglomerate product took place at or on the premises of the manufacturer in the South and, assuming that the constituents of the synthesis and returned containers would, as an elementary precaution and as sound food handling practice, be properly sterilised, I suggested that an investigation should be carried out at the factory as to whether the present or past health of any of the employees could have any bearing in originating illnesses such as Paratyphoid B. Fever among the consumers of this artificial cream outside the confines of the factory.

As there were outbreaks of Paratyphoid B. Fever at different places at different times throughout 1940 traceable to bakeries and attributed to artificial cream derived from a particular factory and dispersed under different trade names through various agents, certain batches could only have been infected periodically depending what shift the presumed carrier was on and it just so happened that Newbiggin's luck was out when it became the recipient of containers from one of those infected batches of artificial cream.

To conclude then no great difficulty was experienced by your Medical Officer in gaining his primary objective, viz. the local source of the trouble in this case, the central bakery, but the further investigation of the factory situated in the rearward areas from which the peccant material was presumed to have emanated rested with Central Health Authority.

Water supplies are necessarily safeguarded by the observation of very stringent regulations affecting production and personnel (vide Bacteriological Examination of water supplies No. 71 revised) and one feels that some parallel ordinances should be evolved in regard to the production of such a universality as synthetic cream especially affecting its sterilisation and the health of the personnel either on recruitment to the factory or on return from sickness.

Measles.

This disease of very early child-hood assailed the susceptible child population about June, and continued consistently to the end of the year. For the most part it affected pre-school children and those attending infant departments in all schools in the district. There were 336 cases notified.

TUBERCULOSIS.

New Cases and Mortality during 1929.

Age Periods	New Cases.				Deaths.			
	Resp.		Non-Resp.		Resp.		Non-Resp.	
	M.	F.	M.	F.	M.	F.	M.	F.
0-	-	-	-	-	-	-	-	-
1-	-	-	1	1	-	-	-	-
5-	1	1	5	1	-	-	-	-
15-	1	1	-	1	1	1	-	1
25-	2	1	-	-	4	1	-	-
35-	-	-	-	-	-	-	-	-
45-	-	-	-	-	-	-	-	-
55-	-	-	-	-	-	-	-	-
65 & over	-	-	-	-	-	-	-	-
Totals	4	3	6	3	5	2	-	1

Non-notified deaths from Tuberculosis ... 1

Notified deaths from Tuberculosis 7

Total deaths from Tuberculosis 8

The Public Health (Tuberculosis) Regulations 1940 became operative in September 1940, imposing an obligation on Medical Officers of Health to furnish to the local offices of the Ministry of Labour particulars of male persons of ages specified from time to time who are registered as having suffered or are suffering from Tuberculosis. The reasons for these are easily made out and enable the responsible authority to be made aware of disabilities past or present at the moment of registration of any male under the Military Service Acts.

CANCER MORTALITY.

	Males						Females					
	20	30	45	55	65	Total	20	30	45	55	65	Total
Bowel	-	-	-	-	-	-	-	-	-	3	1	4
Cervix	-	-	-	-	-	-	-	1	-	-	-	1
Breast	-	-	-	-	-	-	-	1	1	-	-	2
Stomach	-	-	-	1	1	2	-	-	-	-	1	1
Liver	-	-	-	-	1	1	-	-	-	-	-	-
	-	-	-	1	2	3	-	2	1	3	2	8

Birth-rates, Civilian Death-rates, Analysis of Mortality, Maternal Mortality and Case rates for certain Infectious diseases in the Year 1940. Provisional figures based on Weekly and Quarterly Returns.

	England and Wales	126 C.Bs and Great Towns including London	148 Smaller Towns Resident Pop. 25,000 - 50,000 at 1931 Census	London Adm. County
* Rates per 1,000 Civilian Population:-				
Live Births	14.6	16.0	15.7	13.7
Still "	0.55	0.64	0.55	0.44
Deaths:-				
All Causes	14.3	15.8	12.8	17.8
Typhoid and Paratyphoid	0.00	0.00	0.00	0.00
Scarlet Fever	0.00	0.00	0.00	0.00
Whooping Cough	0.02	0.02	0.02	0.00
Diphtheria	0.06	0.07	0.05	0.01
Influenza	0.32	0.29	0.30	0.18
Smallpox	-	-	-	-
Measles	0.02	0.02	0.02	0.01
Rate per 1,000 Live Births:-				
Deaths under 1 Year of Age	55	61	54	50
Deaths from Diarrhoea and Enteritis under 2 years of Age	4.6	5.9	4.4	5.8
* A dash (-) signifies that there were no deaths.				
Rates per 1,000 Civilian Population:-				
Notifications:-				
Enteric	0.07	0.06	0.10	0.06
Cerebro Spinal Fever	0.32	0.33	0.29	0.28
Scarlet Fever	1.63	1.53	1.57	0.82
Whooping Cough	1.34	1.29	1.35	0.22
Diphtheria	1.16	1.29	1.21	0.61
Erysipelas	0.33	0.36	0.30	0.35
Smallpox	0.00	-	-	-
Measles	10.24	9.23	9.99	1.78
Pneumonia	1.20	1.37	1.00	0.87
Rates per 1,000 Total Births (Live and Still):-				
Maternal Mortality:- (Excluding Abortion)				
Puerperal Infection No.147)	0.52	Not available		
Others	1.64			
Total	2.16			
Notifications:-				
Puerperal Fever)	11.96	13.90	9.73	3.34
" Pyrexia				13.30*
				including Puerperal Fever.

